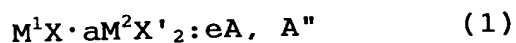


What is claimed is:

1. A radiographic image conversion panel comprising:
a support; and
at least one photostimulable phosphor layer provided on the support,

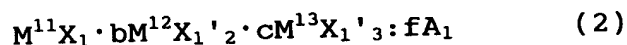
wherein the layer has a film thickness of 50 μm to 1 mm, and has not less than two luminescence wavelength peaks between 350 nm and 450 nm.

2. The panel of claim 1, wherein the layer contains a photostimulable phosphor having an alkali halide represented by the following Formula (1) as a ground material,



wherein the M^1 is at least one kind of alkali metal selected from a group consisting of Li, Na, K, Rb and Cs, the M^2 is at least one kind of bivalent metal atom selected from a group consisting of Be, Mg, Ca, Sr, Ba, Zn, Cd, Cu and Ni, each of the X and the X' is at least one kind of halogen selected from a group consisting of F, Cl, Br and I, each of the A and the A'' is at least one kind of rare-earth element selected from a group consisting of Eu, Tb, In, Ce, Tm, Dy, Pr, Ho, Nd, Yb, Er, Gd, Lu, Sm and Y, and each of the a and the e represents a numeric value in a range of $0 \leq a < 0.5$ and $0 < e \leq 0.2$.

3. The panel of claim 1, wherein the layer contains a photostimulable phosphor having an alkali halide represented by the following Formula (2) as a ground material,



wherein each of the M^{11} and the M^{12} is at least one kind of alkali metal selected from a group consisting of Li, Na, K, Rb and Cs, the M^{11} and the M^{12} being different alkali metal from each other, the M^{13} is at least one kind of trivalent metal atom selected from a group consisting of Y, La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb and Lu, each of the X_1 , the X_1' and the X_1'' is at least one kind of halogen selected from a group consisting of F, Cl, Br and I, the A_1 is at least one kind of rare-earth element selected from a group consisting of Eu, Tb, In, Cs, Ce, Tm, Dy, Pr, Ho, Nd, Yb, Er, Gd, Lu, Sm and Y, and each of the b, the c and the f represents a numeric value in a range of $0 \leq b < 0.5$, $0 \leq c < 0.5$ and $0 < f \leq 0.2$.

4. A radiographic image conversion image panel comprising:

a support; and

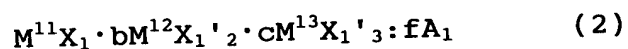
at least one photostimulable phosphor layer provided on the support,

wherein the layer has a film thickness of not less

than 50 μm , and a crystallite size of a photostimulable phosphor in the layer is not less than 90 μm .

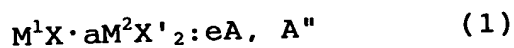
5. The panel of claim 4, wherein the film thickness of the layer is between not less than 50 μm and not more than 20 mm.

6. The panel of claim 4, wherein the layer contains a photostimulable phosphor having an alkali halide represented by the following Formula (2) as a ground material,



wherein each of the M^{11} and the M^{12} is at least one kind of alkali metal selected from a group consisting of Li, Na, K, Rb and Cs, the M^{11} and the M^{12} being different alkali metal from each other, the M^{13} is at least one kind of trivalent metal atom selected from a group consisting of Y, La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb and Lu, each of the X_1 , the X_1' and the X_1'' is at least one kind of halogen selected from a group consisting of F, Cl, Br and I, the A_1 is at least one kind of rare-earth element selected from a group consisting of Eu, Tb, In, Cs, Ce, Tm, Dy, Pr, Ho, Nd, Yb, Er, Gd, Lu, Sm and Y, and each of the b, the c and the f represents a numeric value in a range of $0 \leq b < 0.5$, $0 \leq c < 0.5$ and $0 < f \leq 0.2$.

7. The panel of claim 4, wherein the layer contains a photostimulable phosphor having an alkali halide represented by the following Formula (1) as a ground material,



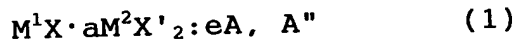
wherein the M^1 is at least one kind of alkali metal selected from a group consisting of Li, Na, K, Rb and Cs, the M^2 is at least one kind of bivalent metal atom selected from a group consisting of Be, Mg, Ca, Sr, Ba, Zn, Cd, Cu and Ni, each of the X and the X' is at least one kind of halogen selected from a group consisting of F, Cl, Br and I, each of the A and the A'' is at least one kind of rare-earth element selected from a group consisting of Eu, Tb, In, Ce, Tm, Dy, Pr, Ho, Nd, Yb, Er, Gd, Lu, Sm and Y, and each of the a and the e represents a numeric value in a range of $0 \leq a < 0.5$ and $0 < e \leq 0.2$.

8. A method for manufacturing a radiographic image conversion panel having at least one photostimulable phosphor layer, comprising:

forming the layer according to a vapor phase growth so that the layer has a film thickness of 50 μ m to 1 mm and not less than two luminescence wavelength peaks between 650 nm and 450 nm.

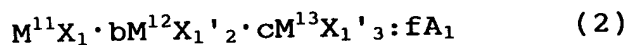
9. The method of claim 8, wherein the layer

contains a photostimulable phosphor having an alkali halide represented by the following Formula (1) as a ground material,



wherein the M^1 is at least one kind of alkali metal selected from a group consisting of Li, Na, K, Rb and Cs, the M^2 is at least one kind of bivalent metal atom selected from a group consisting of Be, Mg, Ca, Sr, Ba, Zn, Cd, Cu and Ni, each of the X and the X' is at least one kind of halogen selected from a group consisting of F, Cl, Br and I, each of the A and the A'' is at least one kind of rare-earth element selected from a group consisting of Eu, Tb, In, Ce, Tm, Dy, Pr, Ho, Nd, Yb, Er, Gd, Lu, Sm and Y, and each of the a and the e represents a numeric value in a range of $0 \leq a < 0.5$ and $0 < e \leq 0.2$.

10. The method of claim 8, wherein the layer contains a photostimulable phosphor having an alkali halide represented by the following Formula (2) as a ground material,



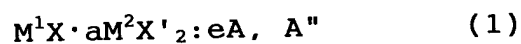
wherein each of the M^{11} and the M^{12} is at least one kind of alkali metal selected from a group consisting of Li, Na, K, Rb and Cs, the M^{11} and the M^{12} being different alkali metal from each other, the M^{13} is at least one kind of trivalent metal atom selected from a group consisting of Y,

La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb and Lu, each of the X_1 , the X_1' and the X_1'' is at least one kind of halogen selected from a group consisting of F, Cl, Br and I, the A_1 is at least one kind of rare-earth element selected from a group consisting of Eu, Tb, In, Cs, Ce, Tm, Dy, Pr, Ho, Nd, Yb, Er, Gd, Lu, Sm and Y, and each of the b, the c and the f represents a numeric value in a range of $0 \leq b < 0.5$, $0 \leq c < 0.5$ and $0 < f \leq 0.2$.

11. A method for manufacturing a radiographic image conversion panel having at least one photostimulable phosphor layer, comprising:

forming the layer according to a vapor phase growth so that a film thickness of the layer becomes not less than 50 μm , and that a crystallite size of a photostimulable phosphor in the layer becomes not less than 90 nm.

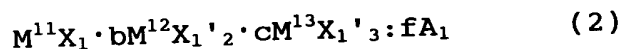
12. The method of claim 11, wherein the layer contains a photostimulable phosphor having an alkali halide represented by the following Formula (1) as a ground material,



wherein the M^1 is at least one kind of alkali metal selected from a group consisting of Li, Na, K, Rb and Cs, the M^2 is at least one kind of bivalent metal atom selected from a group consisting of Be, Mg, Ca, Sr, Ba, Zn, Cd, Cu

and Ni, each of the X and the X' is at least one kind of halogen selected from a group consisting of F, Cl, Br and I, each of the A and the A" is at least one kind of rare-earth element selected from a group consisting of Eu, Tb, In, Ce, Tm, Dy, Pr, Ho, Nd, Yb, Er, Gd, Lu, Sm and Y, and each of the a and the e represents a numeric value in a range of $0 \leq a < 0.5$ and $0 < e \leq 0.2$.

13. The method of claim 11, wherein the layer contains a photostimulable phosphor having an alkali halide represented by the following Formula (2) as a ground material,



wherein each of the M^{11} and the M^{12} is at least one kind of alkali metal selected from a group consisting of Li, Na, K, Rb and Cs, the M^{11} and the M^{12} being different alkali metal from each other, the M^{13} is at least one kind of trivalent metal atom selected from a group consisting of Y, La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb and Lu, each of the X_1 , the X_1' and the X_1'' is at least one kind of halogen selected from a group consisting of F, Cl, Br and I, the A_1 is at least one kind of rare-earth element selected from a group consisting of Eu, Tb, In, Cs, Ce, Tm, Dy, Pr, Ho, Nd, Yb, Er, Gd, Lu, Sm and Y, and each of the b, the c and the f represents a numeric value in a range of $0 \leq b < 0.5$, $0 \leq c < 0.5$ and $0 < f \leq 0.2$.

14. The panel of claim 1, wherein the layer is formed according to a vapor phase growth.

15. The panel of claim 2, wherein the layer is formed according to a vapor phase growth.

16. The panel of claim 3, wherein the layer is formed according to a vapor phase growth.

17. The panel of claim 4, wherein the layer is formed according to a vapor phase growth.

18. The panel of claim 5, wherein the layer is formed according to a vapor phase growth.

19. The panel of claim 6, wherein the layer is formed according to a vapor phase growth.

20. The panel of claim 7, wherein the layer is formed according to a vapor phase growth.